

# 2014 SOUTH FLORIDA Environmental Report



## *At a Glance*

On March 1, 2014, the Florida Department of Environmental Protection and the South Florida Water Management District released the 2014 South Florida Environmental Report detailing a year of restoration, scientific and engineering accomplishments in the Kissimmee Basin, Lake Okeechobee, the Everglades and South Florida coastal areas.

Spanning three volumes and more than 3,000 pages, the 2014 South Florida Environmental Report unifies more than 75 individual reports. The volumes, plus a 27-page executive summary, provide extensive peer-reviewed research summaries, data analyses, financial updates and a searchable database of environmental projects. The full report covers environmental information for Water Year 2013 (May 1, 2012 - April 30, 2013) and project/ budgetary information for Fiscal Year 2013 (October 1, 2012 - September 30, 2013). The report is available online at [www.sfwmd.gov/sfer](http://www.sfwmd.gov/sfer).

## Everglades Water Quality and Restoration Strategies

- Florida's expanded network of Stormwater Treatment Areas (STAs) is actively cleansing water flowing to the Everglades. With 57,000 acres of treatment wetlands operating, the network of STAs treated 1.2 million acre-feet of water in 2013, achieving their best performance to date (84 percent total phosphorus load reduction).
- Agricultural Best Management Practices (BMPs) continue reducing nutrients at the source. Working in conjunction with the STAs, the Everglades Agricultural Area delivered a 41-percent reduction in 2013 when compared to the pre-BMP baseline time period. To the west, the C-139 Basin reduced phosphorus discharges to historic levels.
- Over nearly two decades, water quality treatment by the STAs combined with best management and improved farming practices together have prevented approximately 4,270 metric tons of phosphorus from entering the Everglades.
- Restoration Strategies are being implemented to further improve water quality. Work is now underway on several key construction projects in the State of Florida and the U.S. Environmental Protection Agency's milestone agreement to achieve state water quality standards for the Everglades. This includes construction progress on two shallow reservoirs, known as flow equalization basins, that will help optimize the performance of the STAs and moving forward with science plan studies.
- In the Everglades Protection Area, monitoring in 2013 generally indicated compliance with state water quality

standards. Notably, phosphorus entering the Everglades Protection Area in 2013 increased by approximately 65 percent compared to 2012 due to increased flow volumes from high rainfall events.

- In 2013, the state's Total Maximum Daily Load (TMDL) for mercury (86 percent load reduction) was finalized and legislatively ratified. Mercury levels in Everglades bass and sunfish were above federal human health or wildlife criteria, yet notably lower than in the 1990s.

## Everglades Ecology and Invasive Species

- Nearly 36,000 wading bird nests were initiated in the 2013 nesting season—a moderate improvement relative to the past two years and about 50 percent lower than record levels in 2009. Nest failures were largely due to high rainfall events in February and early April that promoted large-scale, water level reversals as well as loss of food resources.
- Evaluation of the Florida Bay Minimum Flows and Levels rule, conducted to examine the bay's ecological conditions since its implementation in 2006, found that the rule provided appropriate guidance and protection to resources.
- Exotic species control efforts remain vital for regional restoration.

## Lake Okeechobee/Northern Everglades and Estuaries Protection Program

- Projects and initiatives are improving Lake Okeechobee. A host of restoration work was completed or moved forward in the past year, including a three-year update to the Lake Okeechobee Protection Plan and the start of DEP's development of the Lake Okeechobee Basin Management





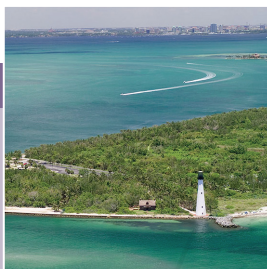


Action Plan to help meet target phosphorus levels. In 2013, phosphorus loading into the lake was higher than the established Total Maximum Daily Load, while wading bird nesting on the lake was at its highest since 2006.

- The Northern Everglades coastal estuaries experienced wet and dry extremes for rainfall and freshwater inflows. The Adaptive Protocol Release Study evaluated the effects of various dry season inflow strategies on water quality and plankton abundance in the Caloosahatchee estuary.
- Heavy rains and stormwater runoff from Tropical Storm Isaac resulted in record rainfall amounts, standing water, erosion of some canals and a three-foot rise in Lake Okeechobee's water level. In response, the District implemented a number of emergency operation actions to move water, including the installation of temporary pumps in some communities to help relieve localized flooding. Focused efforts are underway to expand the Dispersed Water Management Program.
- Progress continues on a suite of water quality/quantity improvement projects in the Northern Everglades.

### Kissimmee River Restoration

- The first three phases of Kissimmee River restoration have reestablished flow to 24 miles of river channel and returned flow to more than 7,700 acres of floodplain. Construction activities advanced in the headwaters and lower part of the river, and water management operations effectively maintained continuous inflow to the restoration area, a key restoration goal. Phosphorus entering the Kissimmee River was comparable to historical averages, although nutrient concentrations were generally higher than baseline levels.



## What is Phosphorus?

Although it is a vital nutrient in all natural systems, phosphorus is also a fertilizer component. It flows across the landscape in stormwater runoff (urban and agriculture), harming natural areas by promoting algae growth and an overabundance of non-native plants, crowding out natural vegetation and disrupting food sources and habitats used by native wildlife. The Everglades is naturally a low-nutrient system. Even small amounts of additional nutrients can upset the ecological balance needed by the native plants and animals in the historic "River of Grass."

## Annual Plans and Reports

- Over the next five years, the District estimates spending \$1.1 billion on projects contained in its Five-Year Capital Improvements Plan. Currently, the plan includes \$376 million dedicated for Restoration Strategies projects; \$255.1 million in recurring ad valorem funds allocated for the refurbishment, replacement, and improvement of South Florida's flood control infrastructure; and other agency water supply and restoration priorities.
- The District is working with the Southwest Florida and St. Johns River water management districts to finalize a joint water supply plan for the Central Florida Water Initiative area. Regional water supply plans, based on a 20-year planning horizon, are updated every five years to identify projects expected to meet reasonable-beneficial water needs and to protect natural systems from harm. The most recent Upper East Coast, Lower West Coast and Lower East Coast Water Supply Plan updates were approved in 2011, 2012 and 2013, respectively. The Lower Kissimmee Basin water supply plan Update is anticipated in 2014.
- In fiscal year 2014, Alternative Water Supply funds were dedicated for six projects that will receive a total of \$2.55 million. Since 2005, the South Florida Water Management District approved more than \$169 million in funding for 300 projects that created more than 437 million gallons per day of additional alternative water supply (AWS) capacity.
- Reports are also prepared annually to comply with various reporting conditions required by permits issued to the South

Florida Water Management District by the U.S. Army Corps of Engineers or by the Florida Department of Environmental Protection to construct and operate regional restoration projects. If a specific project is operational, a detailed annual report with monitoring information is provided as a separate appendix. Otherwise, a project status update is presented in the associated chapter.

- The online SFER Consolidated Project Report Database at [www.sfwmd.gov/sfer](http://www.sfwmd.gov/sfer) provides a comprehensive update on many South Florida Water Management District projects (activities with start and end dates) and processes (ongoing activities) referenced in the 2014 South Florida Environmental Report. The database enables rapid data sorting, searches and retrieval for efficient information and project management.
- The South Florida Water Management District tracks and manages agency performance by linking long-term strategic priorities, annual budgets and performance metrics reporting. Fiscal and Performance Accountability Reports are prepared quarterly.

The complete *2014 South Florida Environmental Report* and illustrated *2014 South Florida Environmental Report Executive Summary* are available online at [www.sfwmd.gov/sfer](http://www.sfwmd.gov/sfer).

Find ongoing updates on key restoration projects by checking out this interactive map at [www.sfwmd.gov/restorationprogress](http://www.sfwmd.gov/restorationprogress).



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